WE CLAIM:

1. An apparatus for use in forming colored segments of a color filter on a substrate having a central slot, an outer periphery around the central slot, a first surface which extends between the central slot and the outer periphery and which is coated with the colored segments, and a second surface opposite to the first surface, said apparatus comprising:

at least one pair of first and second masking plates, said first masking plate being adapted to overlie the first surface, said first masking plate having a first positioning hole, a first outer periphery corresponding to the outer periphery of the substrate, and at least one first cutout part adapted to expose a portion of the first surface, said second masking plate having a second positioning hole, a second outer periphery corresponding to said first outer periphery, and at least one second cutout part corresponding to said first cutout part; and

a securing device for securing together said first and second masking plates and the substrate, said securing device passing through the central slot and said first and second positioning holes, and aligning said first and second cutout parts,

whereby said second masking plate presses said first masking plate tightly against the substrate.

2. The apparatus as claimed in Claim 1, further comprising

a press plate having an axial hole and an outer periphery corresponding to the outer periphery of the substrate, said press plate being adapted to abut against the second surface of the substrate and being sleeved on said securing device.

3. The apparatus as claimed in Claim 2, wherein said securing device includes:

a positioning post having a first positioning section and a second positioning section extending axially and outwardly from said first positioning section, said second positioning section having an abutment surface connected to and extending transversely and outwardly from said second positioning section adjacent to said first positioning section, the first surface of the substrate abutting against said abutment surface and the substrate being sleeved on said first positioning section, said first masking plate being adapted to abut against the first surface of the substrate and being sleeved on said second positioning section, said second masking plate abutting against said first masking plate and being sleeved on said second positioning section;

a first fastening member engaging said first positioning section so as to press said press plate against the second surface of the substrate; and

a second fastening member engaging said second positioning section so as to press said first masking plate against the first surface of the substrate.

4. The apparatus as claimed in Claim 3, wherein said first fastening member is a bolt.

5. The apparatus as claimed in Claim 4, wherein said securing device further includes a first packing ring disposed between said press plate and said bolt and having a central screw hole, said bolt passing through said central screw hole and engaging threadedly said first positioning section so as to press said first packing ring toward the substrate so that said press plate is pressed against the substrate.

6. The apparatus as claimed in Claim 3, wherein said second fastening member is a nut.

7. The apparatus as claimed in Claim 6, wherein said securing device further includes a second packing ring disposed between said second masking plate and said nut and having a central screw hole, said second positioning section having an externally threaded part passing through said first and second positioning holes in said first and second masking plates and said central screw hole in said second packing ring so as to engage said nut, said nut pressing said second packing ring toward the substrate so that said first masking plate is pressed against the substrate.

8. The apparatus as claimed in Claim 3, wherein said first positioning section includes an internally threaded hole, a plurality of angularly spaced-apart positioning protrusions that extend outwardly and

radially from said first positioning section, and a groove defined between each of said positioning protrusions and said abutment surface of said second positioning section.

9. The apparatus as claimed in Claim 1, comprising three pairs of said first and second masking plates.

10. The apparatus as claimed in Claim 9, wherein each of said first masking plates has a pair of said first cutout parts that are diametrically opposite, each of said second masking plates having a pair of said second cutout parts that are aligned respectively with said first cutout parts.

11. The apparatus as claimed in Claim 3, wherein said second positioning section has an asymmetric cross-section, each of said first and second positioning holes having a cross-section substantially corresponding to that of said second positioning section.

12. The apparatus as claimed in Claim 11, wherein said second positioning section includes a plurality of angularly spaced-apart aligning protrusions extending outwardly and radially from said second positioning section, the length of at least one of said aligning protrusions being different from those of the other ones of said aligning protrusions, said first masking plate and said second masking plate being sleeved on said aligning protrusions to stack on the substrate when said

second positioning section is passed through said first and second positioning holes.

13. The apparatus as claimed in Claim 1, wherein said first masking plate further has a plurality of annularly spaced-apart graduation holes surrounding said first positioning hole, said second masking plate further having a plurality of slots to be in alignment with said graduation holes, whereby graduation marks can be formed on the first surface of the substrate.

14. The apparatus as claimed in Claim 1, wherein said first masking plate is flexible, and said second masking plate is rigid.

15. The apparatus as claimed in Claim 14, wherein said first masking plate has a thickness ranging from 0.1~0.3mm.

16. The apparatus as claimed in Claim 14, wherein said first masking plate is made by chemical etching.

17. The apparatus as claimed in Claim 1, wherein said first masking plate is made of metal.

18. The apparatus as claimed in Claim 17, wherein said metal is stainless steel.

19. The apparatus as claimed in Claim 16, wherein said first masking plate has a surface roughness of less than 0.02μm.

20. The apparatus as claimed in Claim 16, wherein said first cutout part subtends an angle at the center of said first masking plate, the tolerance of said angle

being ±0.1°.